

Michael O. Leavitt Governor Ted Stewart Executive Director Lowell P. Braxton Division Director 1594 West North Temple, Suite 1210 PO Box 145801 Salt Lake City, Utah 84114-5801 801-538-5340 801-359-3940 (Fax) 801-538-7223 (TDD)

April 21, 1998

Brent Sumsion Valley Asphalt, Incorporated 7434 South Del Monte Road Spanish Fork, Utah 84660

Re: <u>Initial Review of Notice of Intention to Commence Large Mining Operations, Valley Asphalt, Inc., Lehi Quarry, M/049/031, Utah County, Utah</u>

Dear Mr. Sumsion:

The Division has completed a review of your draft Notice of Intention to Commence Large Mining Operations for the Lehi Quarry, located in Utah County, Utah, which was received October 28, 1997. After reviewing the information, the Division has the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion. A final, updated and complete version of the large mining permit application will be required after resolution of all Division comments.

The Division will suspend further review of the Lehi Quarry NOI until your response to this letter is received. If you have any questions in this regard please contact me, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to discuss this review or permitting process, please contact us at your earliest convenience. Thank you for your continued patience and cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg

Permit Supervisor

Minerals Regulatory Program

jb

Attachment: Review

cc: Joh n Blake, SITLA

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# INITIAL REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Valley Asphalt, Inc.

Lehi Quarry M/049/031 April 21, 1998

## R647-4-104 - Operator's, Surface and Mineral Ownership

Please provide the name(s) and address(es) of the surface owners for the project area. (LK)

## R647-4-105 - Maps, Drawings & Photographs

#### 105.1 Topographic Base Map

Please provide a topographic base map for the project area. This map should be of a scale of 1:24,000, preferably a USGS 7.5 minute map, or a copy of the appropriate portion of the map. Please include property boundaries or the same proposed disturbed area boundary shown on the Mine and Reclamation Plan map. Please include the main access route and appropriate section, township and range markers on this map. (AAG)

#### 105.2 Surface facilities map

There are several features shown outside the dark lines bordering the project areas on the Mine and Reclamation Plan drawing. These features include the growth media stockpile, the growth media berm, and the haul road. These features are considered as disturbed areas by the Division and will need to be included within the disturbed area borders on the drawings and also in the disturbed acreage figure. Please revise the drawing to include these disturbed areas. Please describe the two areas labeled as 'Construction Fill Borrow Site' shown on the Mine and Reclamation Plan drawing. If these areas will be used as borrow sites they will also need to be included in the disturbed area border. If theses areas are intended as "potential" borrow areas which could be used, but are not currently planned to be used, please clarify this. (AAG)

# 105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

Please provide cross sections for the phase 1 mine area which show the projected highwall configuration at the end of the five year period. We realize the mine plan extends beyond five years, however, the proposed surety estimate is for a five year term. This highwall configuration is needed to evaluate the variance request and reclamation cost estimate. Please provide two cross sections through the quarry running perpendicular to each other. Please show the locations of these cross sections on the Mine and Reclamation Plan drawing or Reclamation Treatments map. (AAG)

Please provide a Reclamation Treatments Map. This map should cover all disturbances created under this operation. This map should include color coding or cross hatching which correlates with the specific reclamation treatments proposed for that disturbance feature. For example, roads may be color coded to reflect the reclamation treatments of ripping, topsoil replacement and drill seeding. The Reclamation Treatments map should be the same scale as the Mine and Reclamation Plan drawing. (AAG)

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## 105.3.15 Sediment ponds

Please provide a drawing of the proposed sediment pond or provide enough design detail to adequately describe the capacity, embankment height and spillway configuration and conceptual dimensions. (TM)

# R647-4-106 - Operation Plan

# 106.2 Type of operations conducted, mining method, processing etc.

Please describe the proposed processing facilities and the typical process for the various products to be stockpiled on site. Please describe the crushing plant, asphalt plant and other proposed structures. This information is needed to evaluate the cost for removal and reclamation of the facilities area and to determine if any of these facilities should not be considered as part of the "mining operations" as defined in the Minerals Rules. (AAG).

# 106.3 Estimated acreage disturbed and reclaimed

The reclamation estimate is based on 30 acres of disturbance within the first five years of operation. This acreage appears to include the asphalt and crushing plants yard area, the phase 1 mining area, and the main access road. The disturbances associated with the growth media berm, growth media stockpile and construction fill borrow sites do not appear to be included in the 30 acre estimate. These areas may need to be included in the disturbed area estimate if they will exist within the five year plan. Please clarify this and make the appropriate revisions to the text, drawings and reclamation estimate if needed. Please provide an estimate of the disturbed area associated with the highwalls which is proposed to be left unreclaimed (unvegetated). (AAG)

The submission estimates the acreage to be disturbed for the life of mine as 112.31 acres. Please provide an estimate of the total acreage to be reclaimed for this life of mine disturbance. (AAG)

# 106.6 Plan for protecting & redepositing soils

Plans for protection of the stockpiled topsoil need to include interim revegetation and the posting of signs. Revegetation needs only include 2-3 species to stabilize the stockpiles. Please revise your plan to reflect these changes. (LK)

#### 106.8 Depth to groundwater

The plan states that groundwater is found at an elevation of 4520 feet. Please provide information regarding the reference source of this groundwater data. How was this groundwater elevation determined? (TM)

## 106.9 Proposed location and size of water treatment ponds

Plans for sediment ponds are mentioned in the plan, but they are not shown on the map or described in regards to size or design. Please provide this information. (TM)

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## **R647-4-107 - Operation Practices**

#### 107.1 Public Safety and Welfare

Please describe the plans for disposal of trash and debris during active operations. Please describe the safety measures proposed to prevent public access to the highwall areas during operations or explain why these measures are unnecessary. (AAG)

# R647-4-109 - Impact Assessment

# 109.4 Slope stability, erosion control, air quality, safety

Exhibit C, Variance Request is signed by a Professional Engineer and asserts the structural stability of the vertical to near vertical walls under the proposed mining methodology. Please provide a copy of Exhibit C which includes the stamp of the Professional Engineer. Has an engineering analysis of this particular highwall configuration been performed, and if so, what is the range of calculated safety factors for this configuration? Additional comments relating to highwall stability and safety are provided under section R647-4-112 Variance. (AAG)

#### R647-4-110 - Reclamation Plan

# 110.1 Current & post mining land use

Current land use also includes wildlife habitat. Please revise this section to reflect this land use as well. (LK)

# 110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Exhibit A titled "Reclamation Plan for Lehi Quarry" provides information describing the vegetation study performed at the site and a list of adapted plant species which could be used for revegetation work. Details of reclamation in this section include "Upon concluding the mining activity, the growth medium will be removed from the berm and/or stockpiles using bulldozers and scrapers and will be spread over the disturbed ground of the plant and yard area, the floor of the pit areas, the stockpiling areas and the road." The "Reclamation Notes" block on the Mine and Reclamation Plan drawing contains more detailed reclamation information than the text. Please incorporate these Reclamation Notes into the Reclamation Plan section of the application text.

Under the Conclusion section of the Reclamation Plan section is a list of measures to enhance revegetation success. Is it the operator's intent to incorporate all of these measures into the reclamation plan? A number of these measures do not appear to be included in the reclamation cost estimate. An important factor to include in site grading, in addition to slope variation is surface roughness. All areas to be reclaimed should be left in a rough surface condition to enhance water retention, reduce erosion, and take advantage of wind blown seed and soil.

Please describe the disturbed areas and acreage which will: be ripped, receive fertilizer (and the application rates), receive mulch or organic amendments (and the application rates). Please

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verify that quarry benches will not be revegetated and provide an estimate of the acreage for quarry benches. Please revise the reclamation cost estimate to include any modifications to the reclamation plan and include any revised reclamation treatments on the Reclamation Treatments Map. (AAG)

# 110.5. Revegetation Plan.

The reclamation plan does not contain a revegetation seed mix as required by R647-4-110.5.11 (it does, however, list several species that could be used for reclamation). Attached is a proposed seed mix that should meet the revegetation standards and provide utility for the post mining land use of grazing and wildlife habitat. If this proposed seed mix is acceptable to Valley Asphalt, please include it in your plan. Otherwise, you will need to provide a seed mix that lists the species and seeding rates for each species. This mix should include 3-4 species each of grasses, forbs and shrubs. (LK)

## **R647-4-111 - Reclamation Practices**

## 111.1 Public Safety and Welfare

# 111.1.12 Disposal of trash & debris

It is unknown if onsite burial of construction debris is proposed for this operation, however, the Division typically requests a minimum cover depth of four feet for this practice. Please be advised that you may need approval from the State Division of Solid and Hazardous waste in order to bury construction debris on site. (AAG)

## 111.1.15 Constructing berms/fences above highwalls

The proposed highwalls will be located within a half mile of state highway 73 and plainly visible from the road. Please describe any final reclamation measures to insure public safety above or below the highwalls, or explain why these measures are unnecessary. Please show the location(s) of such measures (fencing, berms or warning signs) on the reclamation treatments map. (AAG)

#### 111.7 Highwalls stabilized at 45 degrees or less

A highwall variance was requested. See comments under section R647-4-112. Variance.

#### 111.12 Topsoil Redistribution

Section 110.5 of the Addendum states stored topsoil will be spread to thickness of approximately 18 inches. The "Reclamation Notes" block on the Mine and Reclamation Plan drawing states growth media will be placed in 12 inch depths. Please clarify these conflicting statements. (AAG)

#### R647-4-112 - Variance

The submission proposes highwalls which will remain at angles steeper than 45 degrees after final reclamation. These highwall areas would appear to be left unvegetated. This would imply a variance

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to rule R647-4-111.7 - Highwalls, and rule R647-4-111.13 - Revegetation under the Reclamation Practices section. The areas to be affected by this request are assumed to be all quarry highwalls proposed for the five year plan and also the life of mine plan.

Justification for the variance is provided in the form of a signed statement from a Professional Engineer. The following is an excerpt from this statement:

"Extensive geologic investigations and mapping of bedrock in this area indicate the bedding planes of bedrock dip approximately 30 degrees from the north to the northeast. By mining from the south to the north a stable vertical wall will exist. Our extensive experience in developing mine plans for clients throughout the country in similar geological formations substantiates the mining methodology to be employed at this site. We do hereby certify the structural stability of the vertical to near-vertical highwalls under the mining methodology proposed."

Information requested by the Division in this letter will need to be reviewed before a decision can be made on these two variance requests. (AAG)

## R647-4-113 - Surety

The submission proposes a reclamation surety amount which covers reclamation costs for the first five years of operations. Within the first five years of operation approximately 30 acres will be disturbed and 72,600 cubic yards of growth medium will be retained for reclamation. The total reclamation surety estimate proposed for the first five years of operation is \$92,590, or an average cost of \$3,086/acre for 30 acres.

The unit costs in the surety estimate for the equipment described are low in terms of \$/hr when compared to unit costs arrived at using the Rental Rate Blue Book (for equipment and equipment operating costs) and the Means Heavy Construction Cost Data 1998 (for operator costs). The Division's reclamation cost estimate needs to reflect third party costs to perform the reclamation work. Please provide a quote from a local contractor to support the unit costs used in this reclamation cost estimate, or revise the estimate using the following equipment unit costs which include an operator: Cat 623 E Scraper \$230/hr, Cat D8N Dozer with ripper \$202/hr, Cat 140H Grader \$102/hr.

The surety estimate includes a line item for clean up and removal of structures. The additional information requested under section R647-4-106.2 describing the surface facilities is needed in order to evaluate the adequacy of this line item.

The surety estimate includes a line item for other plantings (lump sum), however, no mention of other plantings is contained in the reclamation plan section of the submission or in the Reclamation Notes block on the Mine and Reclamation Plan drawing. Please describe the proposed plantings.

The surety estimate will need to be revised to include a 10% contingency added on after the final subtotal. This subtotal in current dollars will then need to be escalated for five years into the future

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using an annual rate of 2.24% per year. The Division can perform these calculations after receiving the revised estimate if you desire.

The additional information requested in this review will be needed before the surety estimate can be calculated or verified by the Division. (AAG)

Attachments: Seed Mix Recommendation o:\review\m049031.lmo

# Recommended Revegetation Species List for

# Valley Asphalt, Inc.

Lehi Quarry M/049/031

Common Name	Species Name	Rate lbs/ac (PLS)
Thickspike wheatgrass	Agropron dasystachum	1.0
Bluebunch wheatgrass	Agropyron spicatum	1.0
Western wheatgrass	Agropyron smithii	2.0
'Piute' orchard grass	Dactylis glomerata	0.5
Basin Wildrye	Elymus cinereus	2.0
Ladac Alfalfa	<u>Medicago sativa</u>	1.0
Yellow sweetclover	Melilotus officinalis	0.5
Palmer penstemon	Penstemon palmerii	0.5
Small burnet	Sanguisorba minor	1.0
Lewis flax	Linum lewisii	1.0
Mountain big sagebrush	Artemisia tridentata yaseyana	0.1
Cliffrose (or Bitterbrush)	Cowania mexicana (Pursia tridente	<u>ata)</u> 2.0
Forage kochia	Kochia prostrata	0.5
Woods rose	Rosa woodsii	1.0
	Total	14.1 lbs/ac

<sup>\*</sup>This the recommended drill seeding rate. If the species are to be broadcast seeded, increase the rate by 50%.

April 15, 1998